

Chevron

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BASE OILS

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Group III UCBO: Performance

ChevronTexaco UCBOs deliver synthetic performance and are ideal blending stocks for achieving the low-volatility standards required for many crankcase engine oil applications. ChevronTexaco UCBOs are the logical choice for:

- Next-generation, premium engine oils
- Extended-drain transmission and gear fluids
- Severe-duty hydraulic and power transfer fluids
- Long-life turbine and industrial oils

Higher VI:
UCBOs have very high viscosity indices ranging from 120 to 140 VI compared to co neutral base oils at about 95 VI.

Higher Purity:
All ChevronTexaco base oils are produced by all-hydroprocessing which lowers the undesirable components such as aromatics, sulfur and nitrogen, resulting in a chem clear base oil.

Exceptional Oxidation Stability:
The higher purity and VI levels of ChevronTex make them exceptionally resistant to oxidation. ChevronTexaco UCBOs produce oxidation stability approaching that of polyalphaolefin synthetics, them ideal for lubricants where longer life is required even under the highest operating temperature.

More Stable Viscosity:
ChevronTexaco UCBOs have very high VIs, providing more stable viscosity at extreme temperatures. lubricants thicken less at cold temperatures and at high temperatures - providing better wear protection and longer equipment life.

Products

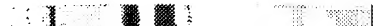
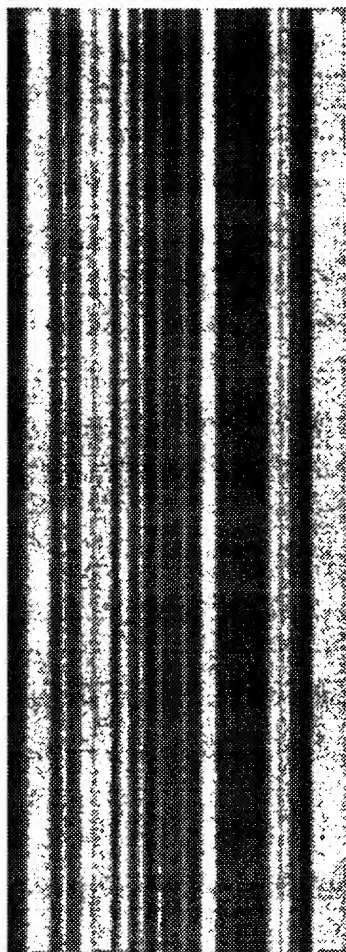
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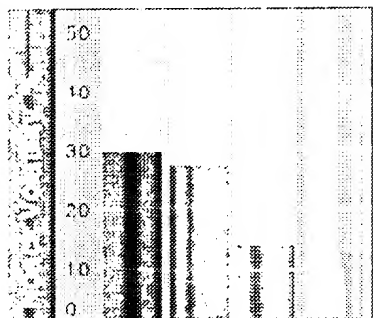
Oil Type	Viscosity Index (VI)
Solvent Refined 100 Neutral (Group I)	~95
ChevronTexaco 100R (Group II)	~120
ChevronTexaco UCBO 4R (Group III)	~140
PAO 4 (Group VI)	~140



Oil Type	Viscosity (cSt)
Solvent Refined 100 Neutral (Group I)	~2800
ChevronTexaco 100R (Group II)	~2800
ChevronTexaco UCBO 4R (Group III)	~2800
PAO 4 (Group VI)	~2800



Solvent Refined 100 Neutral (Group I)
 ChevronTexaco 100R (Group II)
 ChevronTexaco UCBO 4R (Group III)
 PAO 4 (Group VI)



Solvent Refined 100 Neutral (Group I)
 ChevronTexaco 100R (Group II)
 ChevronTexaco UCBO 4R (Group III)
 PAO 4 (Group VI)

Lower Volatility:

The higher VIs of ChevronTexaco UCBOs also make them much less volatile, or less prone to evaporation.

- Engine oils that provide lower oil consu
- Industrial oils and power transmission f have less fluid loss
- Lubricants that show less thickening.

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Table I

API BASE OIL INTERCHANGE GUIDELINES

Base Oil Category	% Saturates	% Sulfur	Viscosity Index
Group I	< 90	and/or > 0.03	80 - 119
Group II	≥ 90	and ≤ 0.03	80 - 119
Group III	≥ 90	and ≤ 0.03	≥ 120
Group IV	All Polyalphaolefins (PAO's)		
Group V	Anything Not Covered in Groups I - IV		



Chevron Unconventional Base Oil 7R



Printable Salesfax--> BO-20.pdf

Click [MSDS](#) to search MSDS database.

Customer Benefits

Chevron Unconventional Base Oils (UCBOs) deliver value through

Very high viscosity index for high viscosity stability through temperature extremes.

- Improved cold starting of engines and equipment.
- Better protection against wear at high temperatures.

Lower volatility for reduced oil consumption in crankcase oils meeting ILSAC GF-3 and other specifications.

Exceptional oxidation stability for longer lubricant life and better additive performance.

Compatibility with conventional base stocks and a wide array of additives for formulating flexibility.

Expert technical assistance for all your formulating options using Chevron UCBOs.

Features

Chevron Unconventional Base Oils (UCBOs) are all-hydroprocessed, highly refined paraffinic base oils of exceptional performance and purity.

Relative to conventional hydroprocessed and solvent refined base oils, Chevron UCBOs offer:

- Lower volatility and cold cranking simulator (CCS) viscosity to meet modern engine oil specifications such as ILSAC GF-3
- Extremely low aromatics, sulfur and nitrogen levels
- Exceptional resistance to oxidation and thermal degradation
- Very high viscosity indices
- Exceptional cranking and pumpability at low temperatures
- Improved viscosity and film strength at high temperatures
- Substantially reduced volatility
- Better lubricity which translates to better energy efficiency

Chevron UCBOs also offer all of the advantages of Chevron Neutral Oils, such as superior soot dispersancy in compounded motor oils and excellent response to pour point depressants.

Applications

Chevron UCBOs are compatible with a wide range of additives, and are excellent base oils for use in any application where high oxidation and thermal stability, exceptional low- or high-temperature performance, or low volatility is required.

Chevron UCBOs can be blended with any of today's conventional base oils or polyalphaolefins to achieve desired characteristics, or used alone to achieve synthetic-level performance.

In the Very High VI Group III category, Chevron UCBOs are available in two viscosity grades:

- 4 cSt at 100°C
- 7 cSt at 100°C

These Group III Chevron UCBOs are excellent alternatives to synthetic base stocks for many applications.

Specific products where they may provide enhanced performance benefits include:

- Passenger Car Motor Oils
- Heavy Duty Motor Oils
- Small Engine Oils
- Automatic Transmission Fluids
- Gear Oils
- Hydraulic and Power Transmission Fluids
- Compressor Oils
- Metalworking Fluids

Typical Test Data

		4R	7R
CPS Number		255196	255195
MSDS Number		6764	6763
API Base Stock Category	(API 1509 E.1.3)	Group III	Group III
API Gravity	ASTM D 1298	39.0	37.9
Specific Gravity at 60/60°F	ASTM D 1298	0.8297	0.8355
Density, lb/gal	ASTM D 1298	6.91	6.96
Viscosity, Kinematic cSt at 40°C cSt at 100°C	ASTM D 445	19 4.1	39 7.0
Viscosity, Saybolt SUS at 100°F	ASTM D 2161	97	196
Viscosity Index	ASTM D 2270	127	135
Cold-Cranking Simulator cP at -30°C cP at -25°C cP at -20°C	ASTM D 5293	1200 800 <750	— 2800 1600
Pour Point, °C(°F)	ASTM D 97	-15(+5)	-15(+5)
Volatility, % distilled at 371°C	ASTM D 2287	2	0
Evaporation Loss, NOACK, wt %	CEC L-40-A-93	14	4
Flash Point, COC, °C(°F)	ASTM D 92	210(410)	240(464)
Color	ASTM D 1500	L 0.5	L 0.5
Sulfur, ppm	Chevron	< 6	< 6
Water, ppm	ASTM D 1744	25	25
Water Separability, mL emulsion at 15 min	ASTM D 1401	0	0
Saturates, NMR, wt %	Chevron	>99	>99
Aromatics, NMR, wt %	Chevron	~0	~0

Typical test data are average values only. Minor variations which do not affect product performance are to be expected in normal manufacturing.

Source: BO-20

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L Number	Hits	Search Text	DB	Time stamp
1	0	ucho adj 200n	USPAT	2002/11/05 10:58
2	4	ucho	USPAT	2002/11/05 11:02
3	5	unconventional adj base adj oils	USPAT	2002/11/05 11:13
4	1267	paraffinic adj mineral adj oil	USPAT	2002/11/05 11:26
5	5	(group adj III) and (paraffinic adj mineral adj oil)	USPAT	2002/11/05 11:29
6	16	saturates and (paraffinic adj mineral adj oil)	USPAT	2002/11/05 11:37